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A Preliminary Checklist Of The Ants (Hymenoptera, Formicidae) Of Everglades-National-Park

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A PRELIMINARY CHECKLIST OF THE ANTS (HYMENOPTERA: FORMICIDAE) OF EVERGLADES NATIONAL PARK

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Everglades National Park encompasses 602,616 ha within Dade, Monroe and Collier counties of southern, peninsular Florida. The Park contains varied habitat types including rockland pine, mangrove swamp, hardwood hammock, freshwater slough, freshwater marl prairie, cypress swamp, and coastal prairie as well as marine and estuarine habitats (Everglades National Park official map and guide 1993).

The Everglades may function as a last refuge for rare and rapidly disappearing natural communities. It also includes areas that were once managed for such diverse uses as cattle ranching and sugar cane production. The ant fauna, therefore, is likely to be rich in indigenous species of natural habitats as well as species typical of disturbed sites, including exotics. The Everglades museum had representatives of only one species of ant (*Camponotus abdominalis floridanus*) from within park boundaries. There is no published, comprehensive list of ants collected from within this unique area. This study provides a preliminary catalogue of ant species of the Everglades and serves as groundwork for more thorough studies of ant ecology in the Park.

Ants were collected from: rockland pine along Research Road (Dade Co.); Palma Vista Hammock, a hardwood hammock near Anhinga Trail (Dade Co.); the disturbed area surrounding the buildings of the Dan Beard Research Facility (Dade Co.); wetland prairie at "Hole-in Doughnut", 1 km SW of the research facilities (Dade Co.); wet flatwoods at Long Pine Key (Dade Co.); an interpretive trail that runs into wetland prairie south of Pay-Hay-Okee (Dade Co.); Rowdy Bend, a mangrove swamp north of Flamingo (Monroe Co.); coastal wetland surrounding the interpretive trail at Eco Pond south of Flamingo Bay (Monroe Co.); and disturbed habitat within historically hardwood hammock at Flamingo (Monroe Co.). Collections were made from 1 June to 31 June 1992 during both day and night. Dead twigs and sticks were split open to uncover ant nests, bark was peeled from dead trees, and fallen logs were overturned to search for ants. Foraging ants were collected when found, and nests were excavated to collect nest series. Alates and foragers attracted to lights were collected at night.

Leaf litter collected from hammock sites was placed in Berlese funnels for ant extraction. Vouchers were deposited in the Everglades museum.

A literature search revealed ant species collected by other investigators within the Everglades. Additionally, the Archbold Biological Station database was searched for ants collected within the Everglades and deposited in Archbold Biological Station and the Smithsonian collections.

Forty-seven species of ants were collected from nine locations in six habitat types within the park (Table 1). Our field efforts combined with the literature and database

TABLE 1. ANT SPECIES COLLECTED FROM EVERGLADES NATIONAL PARK, THE HABITATS IN WHICH THEY WERE FOUND AND SOURCES. HH = HARDWOOD HAMMOCK; RP = ROCKY PINELAND; CP = COASTAL PRAIRIE; MG = MANGROVE; WP = WESTLAND PRAIRIE; DI = DISTURBED; FS = FRESHWATER SLOUGH.

Species	HH	RP	CP	WP	MG	DI	FS
Aphaenogaster fulva[9]	5						
A. mariae[9]	5						
A. miamiana	1						6
Brachymyrmex depilis	6				6		6
B. minutus	6						
B. obscurior	1		1			1	6
Camponotus caryae[9]	3						
C. abdominalis floridanus	1	1		1		1	6
C. decipiens	1, 6						6
C. (Colobopsis) impressus			1	1	1		6
C. pavidus				6			
C. planatus[16]					1		
C. tortuganus	1					1	
Cardiocondyla emeryi[16]		1					
C. nuda[16]	1	1		1	6		
C. venustula[16]	1						
C. wroughtonii[16]	1, 6						
Crematogaster ashmeadi	2	8		6	2	2	
C. sp. nr. *ashmeadi* (undescribed)		8					
C. atkinsoni				1			6
C. minutissima	1, 4						6
Cyphomyrmex minutus	1					6	6
C. rimosus[16]		8					
Dolichoderus pustulatus[10]		5					
Dorymyrmex bureni	1			6			
Eurhopalothrix floridana	6						
Forelius pruinosus		1					
Hypoponera opaciceps	3						6

TABLE 1. (CONTINUED) ANT SPECIES COLLECTED FROM EVERGLADES NATIONAL PARK, THE HABITATS IN WHICH THEY WERE FOUND AND SOURCES. HH = HARDWOOD HAMMOCK; RP = ROCKY PINELAND; CP = COASTAL PRAIRIE; MG = MANGROVE; WP = WESTLAND PRAIRIE; DI = DISTURBED; FS = FRESHWATER

Species	HH	RP	CP	WP	MG	DI	FS
H. opacior	1, 6						
H. punctatissima[16]		1					
Leptogenys manni							6
Leptothorax torrei				1			
L. allardycei	7						
Linepithema humile[16]		1					
Monomorium floricola[16]		1				1	6
M. minimum[9]	5						
M. pharaonis[16]	1					1	
Myrmecina americana[12]	5						
Odontomachus brunneus[13]	4						
O. ruginodus[16]				1		6	
Paratrechina bourbonica[16]	1				1	1	6
P. guatemalensis[16]	1	1					6
P. longicornis[16]	1		1			1, 6	
P. wojciki		6		6			
Pheidole dentata	1, 8	1, 8		6		6	
P. dentigula				6			
P. floridana	6	5				6	
P. megacephala[16]	1						
P. moerens[16]	1, 6			1			6
P. morrisi	5						
Platythyrea punctata	1			1			
P. cubaensis	1			6			6
P. ejectus	6					1	6
P. elongatus	6, 8			6	1		
P. mexicanus[16]	1, 6	1			1	1	6
P. pallidus	1	1	1	1		6	6
P. seminole				1		1	
P. simplex[14]	3, 5						6
Quadristruma emmae[16]	1						6
Smithistruma dietrichi	1, 6	6		6			
Solenopsis abdita	1	6					
S. geminata	1, 6, 8	8					
S. invicta[16]	1	1	1	1	1	1, 6	
S. tennesseensis		6					6
Strumigenys eggersi[16]	1, 6						

TABLE 1. (CONTINUED) ANT SPECIES COLLECTED FROM EVERGLADES NATIONAL PARK, THE HABITATS IN WHICH THEY WERE FOUND AND SOURCES. HH = HARDWOOD HAMMOCK; RP = ROCKY PINELAND; CP = COASTAL PRAIRIE; MG = MANGROVE; WP = WESTLAND PRAIRIE; DI = DISTURBED; FS = FRESHWATER

Species	HH	RP	CP	WP	MG	DI	FS
S. gundlachi[16]	6	7					6
S. louisianae		6					6
Tapinoma litorale	1		1				
T. melanocephalum[16]	1	6					
T. sessile				6			
Tetramorium caldarium[16]	1					1, 6	
T. simillimum[16]	1						
Wasmannia auropunctata[16]	1	1	1			1	6
Xenomyrmex floridanus[15]		4					6
Zacryptocerus varians					1	6	

[1]Present study.
[2]Nielsson et al. 1971.
[3]Smith 1930.
[4]Smith 1933.
[5]Wheeler 1932.
[6]Ants of Florida database, Archbold Biological Station collection and Smithsonian collection.
[7]Smith 1979.
[8]Koptur 1992.
[9]Questionable record, specimens unavailable for verification (M. Deyrup, pers. comm.)
[10]Listed as *Dolichoderus plagiatus* subsp. *pustulatus* in Wheeler 1932.
[11]Listed as *Ponera opaciceps* in Smith 1930.
[12]Listed as *Myrmecina graminicola* Latr. subsp. *americana* Emery var. Brevisponosa Emery in Wheeler 1932.
[13]Listed as *Odontomachus haematodes* subsp. *insularis* Guerin in Smith 1933.
[14]Listed as *Pseudomyrma flavidula* in Smith 1930, and Wheeler 1932.
[15]Listed as *Xenomyrmex stolli* subsp. *rufescens* Wheeler in Smith 1933.
[16]Exotic species.

searches revealed a total of 75 species. Twenty-six species were exotic. Fifteen of the exotic species originated from old world tropics and eleven originated from new world tropics. Because unequal amounts of time were spent at each site and collecting methods varied with each habitat type, these data cannot be used as a measure of habitat species abundance.

The Everglades is a large ecological preserve located at the southern tip of peninsular Florida. It includes both pristine habitat and historically man-modified areas, and lies between two areas of relatively well-studied ant faunas: 1) the Florida Keys (Wilson 1964, Deyrup et al. 1988, Deyrup 1991), and 2) areas of southern Florida north of the Everglades (Smith 1930, Wheeler 1932, Smith 1933, Nielsson et al. 1971, Deyrup & Trager 1986).

Thirty-five percent of the species that have been collected within the Everglades were exotics and none of these species were restricted to disturbed habitats. However, because our collections from "natural" areas contained disturbances such as roadsides and trails, these are effectively disturbed areas. The proportion of exotic species that were found in the Everglades was similar to the proportion of exotic species that have been found in the Florida Keys (Deyrup 1991), and similar to the proportion of exotic ant species found in residential Dade county (Deyrup 1991).

The present study did not extend the ranges for any native or exotic species. No new species were discovered. Many exotics were expected because of the neotropical climate and proximity to centers of commerce and human traffic. Future collections in pristine habitats, less prone to the invasions of some exotics, would be useful additions to our knowledge of the ant assemblage of the Everglades.

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SUMMARY

Forty-seven species of ants were found in six habitat types in Everglades National Park during nine collecting trips in June 1992. A search of both the literature and a database of Florida ants are combined with our efforts to form a preliminary list of 75 species of ants from the park.

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